

Complete Summary

GUIDELINE TITLE

Report on evaluation of the azoospermic male.

BIBLIOGRAPHIC SOURCE(S)

Report on evaluation of the azoospermic male. Baltimore (MD): American Urological Association, Inc.; 2001 Apr. 10 p. [19 references]

COMPLETE SUMMARY CONTENT

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SCOPE

DISEASE/CONDITION(S)

- Azoospermia
- Severe oligospermia
- Male infertility

GUIDELINE CATEGORY

Diagnosis
Evaluation

CLINICAL SPECIALTY

Endocrinology
Family Practice
Internal Medicine
Medical Genetics
Obstetrics and Gynecology
Urology

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

To offer recommendations for diagnosing and defining the etiology of azoospermia or severe oligospermia

TARGET POPULATION

Men with azoospermia or severe oligospermia

INTERVENTIONS AND PRACTICES CONSIDERED

1. Complete medical history, including prior fertility; childhood illnesses such as viral orchitis or cryptorchidism; genital trauma or prior pelvic or inguinal surgery; infections such as epididymitis or urethritis; gonadotoxin exposures such as prior radiation therapy/chemotherapy, recent fever or heat exposure and current medications; and family history of birth defects, mental retardation, reproductive failure or cystic fibrosis
2. Physical examination, including testis size and consistency; secondary sex characteristics; presence of and consistency of the vasa deferentia; consistency of the epididymides; presence of a varicocele; and, masses upon digital rectal examination
3. Hormone level measurements, including measurement of serum testosterone and follicle stimulating hormone (FSH) levels
4. Abdominal ultrasonography
5. Transrectal ultrasonography, with or without seminal vesicle aspiration or seminal vesiculography
6. Genetic testing for cystic fibrosis transmembrane conductance regulator (CFTR) mutations, other chromosomal abnormalities, and Y-chromosome microdeletions
7. Diagnostic testicular biopsy
8. Vasography
9. Seminal pH and fructose testing

MAJOR OUTCOMES CONSIDERED

Not stated

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Not stated

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

This guideline document was submitted for peer review by 125 physicians and researchers from the disciplines of urology, gynecology, reproductive endocrinology, primary care and family medicine, andrology and reproductive laboratory medicine. Modifications were made by the Practice Committee of the American Society of Reproductive Medicine. After the final revisions were made based upon the peer review process and the Practice Committee of the American

Society of Reproductive Medicine, the documents were submitted to, and approved by the Board of Directors of the American Urological Association and the Board of Directors of the American Society of Reproductive Medicine.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Initial Diagnosis of Azoospermia

The diagnosis of azoospermia requires the absence of sperm from at least two separate centrifuged semen samples.

Initial Evaluation of the Azoospermic Patient

The minimum initial evaluation of an azoospermic patient should include a full medical history, physical examination, and measurement of serum testosterone and follicle stimulating hormone levels.

Evaluation of Specific Conditions Associated with Azoospermia

Absence of the vasa deferentia (vasal agenesis)

At a minimum, genetic testing for cystic fibrosis transmembrane conductance regulator (CFTR) mutations in the female partner should be offered before proceeding with treatments that utilize the sperm of a man with congenital bilateral absence of the vasa deferentia. If the female partner tests positive for a cystic fibrosis transmembrane conductance regulator mutation, the male should be tested as well. If the female partner has a negative test for cystic fibrosis transmembrane conductance regulator mutations, testing of the male partner is optional.

Bilateral testicular atrophy

All patients with azoospermia due to primary hypogonadism should be offered genetic testing. Patients with acquired hypogonadotropic hypogonadism should be evaluated for functioning and non-functioning pituitary tumors by measurement of serum prolactin and imaging of the pituitary gland.

Ductal obstruction- Patients with normal ejaculate volume

In order to distinguish between obstructive and nonobstructive causes of azoospermia, diagnostic testicular biopsy is indicated for patients with normal testicular size, at least one palpable vas deferens and a normal serum follicle stimulating hormone (FSH) level. Vasography should not be performed at the time of diagnostic testicular biopsy unless reconstructive surgery is undertaken at the same time.

Ductal obstruction- Patients with low ejaculate volume

Testicular biopsy may be performed to confirm the presence of reproductive tract obstruction in patients with low ejaculate volume azoospermia and palpable vasa. Transrectal ultrasonography, with or without seminal vesicle aspiration and seminal vesiculography, may be used to identify obstruction in the distal male reproductive tract. Alternatively, vasography may be used to identify the site of reproductive tract obstruction in patients with low ejaculate volume azoospermia and palpable vasa but should not be done unless reconstructive surgery is undertaken at the same surgical procedure.

Genetic Testing in Patients with Azoospermia

Men with non-obstructive azoospermia and severe oligospermia should be informed of the potential genetic abnormalities associated with azoospermia or severe oligospermia.

Karyotyping, Y-chromosome analysis and genetic counseling should be offered to men with non-obstructive azoospermia prior to performing intracytoplasmic sperm injection with their sperm. Genetic counseling may be offered whenever a genetic abnormality is suspected in either the male or the female partner and should be provided whenever a genetic abnormality is detected.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is not specifically stated for each recommendation.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate evaluation of a patient with azoospermia may help the physician to determine the etiology of the condition. This may allow the physician to:

- Establish whether the cause of azoospermia is amenable to therapy
- Identify appropriate treatment options
- Determine whether a significant medical disorder is the underlying cause of the azoospermia

Subgroups Most Likely to Benefit:

Patients with pre-testicular and post-testicular abnormalities that cause azoospermia are most likely to benefit, since these abnormalities are frequently correctable.

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

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This report is intended to provide medical practitioners with a consensus of principles and strategies for the care of couples with male infertility problems. The report is based on current professional literature, clinical experience and expert opinion. It does not establish a fixed set of rules or define the legal standard of care and it does not pre-empt physician judgment in individual cases. Physician judgment must take into account variations in resources and in patient needs and preferences. Conformance with this Best Practice Policy cannot ensure a successful result.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Report on evaluation of the azoospermic male. Baltimore (MD): American Urological Association, Inc.; 2001 Apr. 10 p. [19 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2001 Apr

GUIDELINE DEVELOPER(S)

American Society for Reproductive Medicine - Private Nonprofit Organization
American Urological Association, Inc. - Medical Specialty Society

GUIDELINE DEVELOPER COMMENT

This document was written by the Male Infertility Best Practice Policy Committee of the American Urological Association, Inc. (AUA) and the Practice Committee of the American Society for Reproductive Medicine (ASRM). The two organizations agreed to collaborate to prepare documents of importance in the field of male infertility. The Male Infertility Best Practice Policy Committee was created in 1999 by the Board of Directors of the American Urological Association, Inc.®

SOURCE(S) OF FUNDING

American Urological Association, Inc. (AUA)

GUIDELINE COMMITTEE

Male Infertility Best Practice Policy Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Committee members received no remuneration for their work. Each member of the Committee provided a conflict of interest disclosure to the American Urology Association (AUA).

GUIDELINE STATUS

This is the current release of the guideline.

An update is not in progress at this time.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the [American Urological Association, Inc. \(AUA\) Web site](#).

Print copies: Available from the American Urological Association, Inc., 1000 Corporate Boulevard, Linthicum, MD 21090.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

The following are available for physicians to distribute to patients:

- A basic guide to male infertility. How to find out what's wrong. Baltimore (MD): American Urological Association, Inc, 2001. Available in Portable Document Format (PDF) from the [American Urological Association, Inc. \(AUA\) Web site](#).
- A basic guide to male infertility. Getting help for obstructive azoospermia. Baltimore (MD): American Urological Association, Inc, 2001. Available in Portable Document Format (PDF) from the [AUA Web site](#).

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC STATUS

This NGC summary was completed by ECRI on November 7, 2001. The information was verified by the guideline developer as of December 24, 2001.

COPYRIGHT STATEMENT

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Date Modified: 11/8/2004

